

In the Claims:

Please amend claims 1-2, 8-14, 19-21, 32, and 34-35 as follows:

1. (amended) An apparatus according to claim 2, said apparatus further comprising:

a half cell measuring a potential of a tank, the measured potential indicating an amount of corrosion of the tank and a cathodic protection level of the tank.

2. (amended) An apparatus comprising:

an instrumented anode for directly measuring a current demand of cathodic areas of a tank, said instrumented anode positioned separate from and electrically isolated from the tank, with the current demand indicating an amount of corrosion of the tank and a level of coatings degradation.

8. (amended) An apparatus comprising:

an instrumented anode measuring a current demand of cathodic areas of a tank, the current demand indicating an amount of current required to protect the tank.

9. (amended) An apparatus according to claim 8, wherein the indicated amount of required current is in one of at least two different ranges.

10. (amended) An apparatus according to claim 9, wherein the measured current output is below a specific level indicating that the amount of required current is in a first range of said one of at least two different ranges.

11. (amended) An apparatus according to claim 9, wherein the measured current output is within a specific level indicating that the amount of required current of the tank is between a first and second range of said one of at least two different ranges.

12. (amended) An apparatus according to claim 9, wherein the measured current output is above a specific level indicating that the amount of required current of the tank is in a second range of said one of at least two different ranges.

13. (amended) An apparatus according to claim 8, wherein the anode is an instrumented sacrificial anode which uses ZHC-24 zinc.

14. (amended) An apparatus comprising:

half cells measuring a potential which corresponds to a polarization of a tank; and  
an anode measuring a current demand of cathodic areas of a tank, said current demand indicating an amount of calcareous deposit on surfaces of the tank, and the polarization and the measured current demand together indicating an amount of corrosion of the tank and a level of coatings degradation, said polarization and current demand further providing an anticipated lifetime before exhaustion of sacrificial anodes in the tank.

19. (amended) An apparatus according to claim 15, wherein the measured current demand is below a specific level indicating that the amount of coatings degradation is in a first range of said one of at least two different ranges.

20. (amended) An apparatus according to claim 15, wherein the measured current demand is within a specific level indicating that the amount of coatings degradation is between a first and second range of said one of at least two different ranges.

21. (amended) An apparatus according to claim 15, wherein the measured current output is above a specific level indicating a condition in which an amount of coatings degradation is in a second range of said one of at least two different ranges.

32. (amended) An apparatus as in claim 1, further comprising:

a second half cell for measuring a potential of said tank,

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~~wherein said half cell and said second half cell measure potential at different levels of a tank, said measured potential indicating a level of fluid in the tank.~~

*A 10*  
34. (amended) An apparatus as in claim 33, further comprising a monitoring device for continuously tracking trends in said potential and said current output measurements as they change over time.

*A 10*  
35. (amended) A method for determining whether a tank requires maintenance comprising:  
measuring a potential which corresponds to a polarization of a tank during a filling episode of the tank,  
measuring a current output of an instrumented sacrificial anode during the filling episode of the tank,  
comparing said potential and said current output with preset levels to determine whether a tank requires maintenance, and  
if not maintenance is currently required, determining a time when maintenance will be required.